The Role and Challenges of International Financial Institutions in promoting Global Green Finance Capacity Building

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Abstract. This paper examines the pivot role of international financial institutions (IFIs) in advancing green finance and their responsibility to provide funds. While IFIs contributes significantly, they face crucial challenges, including diverse regional policies differences and technology disparities across countries. These obstacles hinder the effective application of advanced financial technologies to support green finance, resulting in uneven development across regions. To address these issues, the paper points out that it is imperative for IFIs to establish an open, unified, innovative and efficient sharing platform. This platform would enable countries to cooperate on developing international standards and guidelines for green finance, thereby fostering policy coordination. Additionally, numerous uncertainties are affecting the green financial industry. To better control these risks, IFIs should enhance their own management capability, improve decision-making and capital operation efficiencies, and strengthen cooperation with international organizations, governments, as well as the private sector. Such efforts are essential to collectively advance the global green finance industry.

Keywords: Global, Green Finance, International Financial Institution.

1. Introduction

1.1 The background

The current global environmental challenges mainly include climate change, resource depletion and pollution. These global challenges are constantly escalating, and the transition to a sustainable low-carbon economy has become an urgent need for the world. However, green finance has emerged as a key tool in this transformation process. It directs funds and resources to environmentally friendly and sustainable projects, promotes the development of clean energy, and improves energy efficiency and sustainable development. The global green finance market reached \$4.18 trillion in 2023 and is expected to grow to \$28.71 trillion by 2033, with a CAGR of 21.25% from 2023 to 2033.With large capital reserves and great global influence, international financial institutions (IFIs) play an important role in promoting global green finance capacity building and have been changing the international financial pattern for a long time.

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However, as people are increasingly aware of the importance of the environment, their focus is gradually shifting towards supporting green finance initiatives. The evolving global economic landscape has both created opportunities and posed challenges for IFIs to enhancing the green finance capacity of countries around the world.

1.2 The purpose

The purpose of this paper is to comprehensively analyze the role of IFIs in promoting global green finance capacity building, and the challenges that IFIs will face in promoting green finance development. By understanding the current role of IFIs in the field of green finance. For instance, providing financial support, technical assistance, and policy advice, It can identify their contribution to the development of green finance in different regions. At the same time, targeted strategies and solutions are proposed through challenges. For example, different policies and uneven green finance standards in different countries and regions. This paper aims to provide suggestions for IFIs and green finance related policy makers to better promote the growth of global green finance capacity, accelerate the global economy to sustainable economy transformation, and achieve the goal of sustainable development.

2 Introduction to IFIs and Green Finance

2.1 The Introduction of IFIs

An International Financial Institution (IFI) is a financial institution established by multiple nations and governed by countries and international law. Its shareholders are mainly national governments, with some also include international organizations, for example, the global institutions, such as the International Monetary Fund (IMF), the regional institutions, such as the Singapore Exchange and the regional development banks, and the multilateral trade and investment institutions , such as China-Germany bilateral investment treaty. The IMF primarily oversees the global monetary system, provide short-term financial aid to its members, and maintains floating exchange rates. The World Bank Group supports economic growth in developing countries through the provision of financial aid, technical assistance, and knowledge sharing. For example, it has financed extensive public works in Sub-Saharan Africa, improving access to transport and electricity. Regional development banks are also crucial in promoting regional economic integration, cooperation by providing financing for infrastructure projects and trade deals. The most notable multilateral trade and investment institutions are the World Trade Organization (WTO) and the Multilateral Investment Guarantee Agency (MIGA). The WTO's key responsibility is regulating international trade, resolving trade disputes, lowering trade barriers and promote trade between countries, and then leads to economic growth. Regarding MIGA, it provides political risk insurance to transnational investments, stimulates capital flows and helping developing countries attract foreign investment. IFI are an essential part of global economic governance. They encourage consistency and stability of global economic policies, help countries jointly address global economic issues, and help developing countries establish financial mechanisms through the provision of financial assistance, technical support and knowledge sharing. This can reduce the global wealth gap and promote sustainable worldwide economic development. However, IFI will still face many challenges in the future. The first is the lack of fair representation of developing versus developed countries in these institutions regarding voting. And With the deepening of globalization, the IFI must respond to new challenge, climate changes. This makes it necessary for them to provide inclusive and innovative solutions. Hence, it should continue to reform and work more closely with governments, the private sector and other international institutions [1].

2.2 The Introduction of Green Finance

With climate change at the global level, the pollution of the environment and depletion of resources are increasingly threatening day-to-day life. Hence, traditional financial systems cannot cope with current environmental issues. Green finance is an emerging financial model that supports sustainable development by funding renewable energy, low-emission technologies, and environmentally friendly projects. It creates jobs, offers new investment opportunities, and supports industries like clean energy and electric vehicles. Green finance helps financial institutions identify and manage risks posed by environmental factors, by promoting long-term investments and discouraging short-term investments. As a result, this enhances the stability and sustainable growth of financial markets. In conclusion, green finance is an effective driving force to solve global environmental problems and in the promotion of economic development, while it can play a major role in transitioning the economy to the green economy and low-carbon economy. However, three substantial challenges for green finance currently include a lack of global standardization, the shortage of available data, and the difficulty of obtaining financing. These problems arise from the different regulatory frameworks in different countries, as well as a lack of robust data collection and sharing mechanisms. Tackling these challenges will demand global cooperation and creative thinking. Moreover, businesses and financial institutions have yet to put in place strong mechanisms to collect information on green finance, leading to a lack of disclosure. Another challenge standing in the way of green finance is the high cost of investment projects with long return periods and expensive financing. These factors make it difficult to obtain sufficient funding. Therefore, cooperation between countries and regions should be strengthened to ensure the consistency of policy support and standard-setting. Improving data collection systems and creating a broader range of green financial products are key to overcoming existing challenges. And it can also attract financing by creating new innovative financial products. Overall, the extent to which these challenges can be effectively addressed through a globally coordinated response will be a measure of the success of green finance [2].

3 The role of IFIs in promoting global green finance capacity building

3.1 Financial Support and Resource Allocation

Financing Scale and Cases of Green Projects. IFIs will contribute differently in different regions and in different types of green projects. For example, the IMF has set up a resilience and sustainability trust for low-income countries. This can help these countries to promote and manage climate policy reforms, create an environment conducive to green investment, and attract significant financing to promote green projects. Multilateral Development Banks (MDBs) play a role in mobilizing, allocating, and spending funds to address climate change (adaptation finance). In 2023, the MDBs' adaptation portfolio showed significant growth of more than USD 25 billion. This growth brought the share of adaptation finance in the MDBs' financial commitments to around 33%, with the majority of funds going to low-income countries, highlighting the MDBs' increasing investment in adaptation finance. For example, the South Bank Water Reclamation Project is one of the highlights of the Climate Transformation Investment Programme, and its implementation is key to increasing water security and improving sanitation in Barbados. This action reflects the financial assistance provided by the multilateral development banks to low-income countries to help them invest in environmental projects [3]. The Green Climate Fund (GCF)provides a large amount of concessional funding for blended finance deals and is a key channel for financing environmental projects. An example is the African Rural Climate Adaptation Facility (ARCAF), which has received financial assistance from the GCF. This has significant significance for the development of green emerging markets [4]. Therefore, cross-regional investment by IFIs not only reflects the importance of international cooperation and promotes international cooperation, but also sets an example of cooperation among countries to promote the development of green projects.

Direct Capital to Green Development. IFIs can attract private capital to green projects through policy guidance and risk assessment, facilitating capital convergence in the green industry. This helps emerging markets and developing economies address structural issues and achieve sustainable growth in renewable energy investment. For example, since 2004, Chile has pursued a series of environmental and climate policies in the electricity sector. The most far-reaching of these is the subsidization of electricity prices, which allows companies generating electricity from renewable sources to reduce their production costs and then use the funds to expand their development. The Chilean government has also introduced a carbon tax, which could provide a major boost to the country's energy mix as it seeks to make a green transition. However, emerging markets and developing economies suffer from high financing costs, and it is important for IFIs to assess and manage risk in order to attract investment. For example, the innovative financing tools provided by multilateral development banks and donors can achieve public-private sharing and reduce the risk of capital investment, thus attracting a large number of green project investments. For example, the EU has actively played a leading role in launching a series of forward-looking strategic initiatives, such as the EU Hydrogen Strategy. These initiatives have been effective and have successfully promoted emerging markets and developing economies to attract more FDI in the field of green hydrogen. Along with the rapid expansion of the green financial market, the traditional financial market has also suffered an unprecedented blow [4]. Therefore, the traditional financial market is also slowly shifting to green projects, which can greatly promote the transformation of the entire financial market to sustainable development and achieve synergistic development of environmental protection and economic development [4].

3.2 Standard Setting and Rule Leading

Development Process of International Green Finance Standards. With the signing of the Paris Agreement in 2015, the agreement emphasized the role of finance in addressing the environmental climate, which laid the foundation for and accelerated the development of green finance. In the course of the development of green finance, the period from 2018 to 2019 was also an extremely critical stage. The European Union has taken active action, the EU has taken the lead in launching a sustainable action plan for green finance and released the EU Classification of Sustainable Activities, which improves the regulatory system of green finance and provides strong support for the development of green finance. By 2021, China and the EU had joined hands to promote the development of a common catalogue of sustainable finance, which has given impetus to the synergistic development of global green finance. Within the past few decades, standards for green finance have continued to emerge from various governments, regulators, and financial institutions. Even the green finance policies introduced by various NGOs and multilateral organizations are inconsistent, which seriously hinders the healthy development of the green finance market [5]. International green financial standards, formulated by IFIs, regulate the global green financial market, ensuring funds are accurately invested in green projects and promoting the green development of traditional projects, thereby protecting the climate environment. Finally, a unified standard can significantly reduce the differences between countries' green financial markets, so the formulation and unification of international green financial standards can not only create favourable conditions for cross-border investment, but also promote the integration of global green finance [6].

Promote the Standardization of Global Green Finance Development. There are differences in the development of green finance in different countries. IFIs can promote the implementation and dissemination of standards, reduce geographical differences through the harmonization of standards, and facilitate the interconnection of international green finance markets. For example, the Asian Infrastructure Investment Bank (AIIB), as a multilateral policy bank closely related to the Belt and Road Initiative, has formulated and implemented a series of policies to effectively guide the flow of funds to green projects. Under the leadership of AIIB, different policies of green finance markets in different countries and regions have gradually become coordinated and unified, which effectively promotes the healthy development of green finance markets [7].

There are also many successful cases of green finance investment. For example, Toyota Tsusho Corporation in Asia uses linked loans to link the terms of the loan to the environmental performance of the enterprise, which can directly promote the green transformation of the enterprise. There is also the European Investment Bank's active issuance of green bonds to raise funds for new energy projects and promote the development of green projects. In North America, IFIs in cities such as New York and Colombia have assisted local governments and used financial instruments to transform and develop green infrastructure in cities and promote energy-efficient housing and green transport. These cases fully confirm that the significant results of green finance development in different regions are driven by unified standards and effective implementation [8]. In addition, to promote the development of green finance, which requires global cooperation, IFIs continue to lead the market to adjust and harmonize standards. This will attract more institutions and countries to participate, which can improve the transparency and efficiency of global green finance [9].

3.3 Green Projects and Technical Assistance

Promote Training Programs in Developing Countries. Training programs organized by IFIs can have a far-reaching impact on the development of green finance in developing countries by enhancing their financial capacity and promoting the development of local green industries. These positive mechanisms can help green finance practitioners, business executives, and government officials in developing countries acquire professional knowledge related to green finance and enhance their capacity at the fund management level. For example, the effective selection of projects, the rational deployment of funds, and the complete use of resources. Therefore, through the training provided by IFIs, green finance practitioners in developing countries can more scientifically, efficiently and accurately invest their funds in green projects with sustainable development and potential, thereby promote the development of the green finance industry on a global scale. For example, the investment in green infrastructure and issuance of green bonds in African countries is relatively low compared to the rest of the world, which means that there is still a lot of room for improvement in the development of green finance in African countries, and Green finance practitioners are directly involved in the innovation and sale of green financial products in their daily work, and they need to have a more in-depth understanding of the needs of green finance, so through the training programs of IFIs, African countries can have more scientific, efficient, and accurate investment in green projects with sustainable and precise potential, which can promote the development of green finance on a global scale [10].

Build a Technology and Knowledge Sharing Platform. At present, green finance continues to develop, the scale of green projects is expanding, and the demand for international cooperation is increasing. IFIs are committed to building a global platform for green finance cooperation and sharing and promoting the integration of resources across regions. The green financial technology innovated by IFIs can use artificial intelligence technology to detect pollution emissions, and can also use models to calculate and assess the status of low-carbon financing. IFIs can build a technology and knowledge-sharing platform based on green financial technology to share how to use green financial technology to solve environmental problems and how to use data to assess the governance of the climate environment [11]. This will not only expand the scope of application of green finance and improve the adaptive capacity of green finance, but also strengthen the depth of international cooperation. The practice of green financial science and technology needs to involve multiple countries and regions, which can transform the results of green financial science and technology into practical applications. This can promote comprehensive cooperation among countries in the field of green finance, so that green financial services can promote the development of the global financial industry [12].

4 Challenges faced by IFIs in Promoting Global Green Finance Capacity Building

4.1 Unstable Capital Allocation and Financing Difficulties

The Differences among IFIs. The differences among IFIs stem from three main factors. First, large IFIs have multiple funding sources, including member contributions and international market financing, resulting in substantial capital reserves. In contrast, regional IFIs rely on local market financing, limiting their capital reserves. Second, the positioning of different IFIs is different. Large IFIs usually invest on a global basis, focusing their business on all parts of the world, which leads to a large amount of investment and a stronger ability to supply funds. Smaller IFIs, however, usually invest on a local or single-region basis, focusing their operations on specific regions, resulting in smaller investments and a weaker ability to supply capital. This can lead to differences in the capital supply capacity of differently positioned IFIs [13]. Third, the risk-bearing capacity of different IFIs is different. Large IFIs have a more aggressive investment approach, usually investing in higher risk and higher return projects, so the supply of funds will be more active and stronger. However, small IFIs are more conservative in their investment approach, usually investing in lower-risk projects with lower rates of return, so the supply of funds will be more cautious and less capable [14]. After detailed analysis, two solutions can be summarized. First, promote and strengthen the cooperation between IFIs. A sharing platform can be built to allow different IFIs to share their investment experience in projects with each other. Second, improve the self-construction capacity of small IFIs. Improve the project risk assessment capacity and fund management capacity of small IFIs, and improve the professional talent cultivation capacity of small IFIs, which can improve their confidence in the supply of funds, and to a certain extent, improve the capacity of fund supply.

Expand access to Financing and Reduce Investment Costs. Narrower financing channels for green projects and higher investment costs for green projects are common problems facing the development of green finance on a global scale. There are three main reasons why green finance faces this problem. First, the investment cycle of green projects is long, and the return on capital is slow. The initial investment of a green project, such as site selection and procurement of equipment and facilities, requires a large amount of capital. The mid-term investment of a green project includes the installation of equipment and facilities, and the arrangement of management personnel and management systems. The late investment of green projects includes the operation and maintenance of the equipment. Therefore, the investment cycle of a green project is very long, and it takes many years of operation before it can start to make a profit. Second, the market for green finance is still immature. For example, the current green bond market still lacks clear and uniform standards, which makes it difficult for investors to judge the investment value of green projects, thus relatively increasing the investment cost [15]. Third, the support of some governments for green finance is insufficient. Although most governments have issued certain policies to support the development of green finance, they have not provided certain subsidies to green enterprises. This will lead to a lack of initiative in the production and innovation of green enterprises, which will make it difficult for funds to flow into more green projects and also lead to higher investment costs [16]. After a thorough analysis, three solutions are proposed. First, improve and innovate the mode of green project investment to shorten the investment cycle and increase the profitability of green projects. Second, improve the green financial market mechanism and increase the transparency of the green financial market, thereby increase the attractiveness of the green financial market. Third, the national government should strengthen the support for the development of green finance, increase funding for green enterprises, and guide financial institutions and green enterprises to direct funds to green projects, thereby promote the development of green industry.

4.2 Regional Policy Differences Lead to the Emergence of Coordination Barriers

The Current Situation of Policy Differences in Several Region. Different regions combine local realities when formulating green finance policies, which leads to large differences in green finance policies in different regions. In China, provinces have varying green finance policies. For example, Guangdong Province, China's largest economy, leads the nation in green bond issuance, focusing on market development. Zhejiang Province focuses on optimizing the regional economic structure, and the government supports the transformation of traditional industries into green industries to achieve the green transformation of the entire region's economy. The Xinjiang region is economically backward but energy-rich. Therefore, the Xinjiang region will vigorously innovate green financial products, play its own advantages in agriculture, natural resources and clean resources, to provide financial protection for the development of local green industry [17]. In the world, regional differences also affect the differences in the development of green finance. For example, in the European Union, where the green finance industry is highly developed, policies are relatively uniform and stable, and the green finance market is more transparent. However, compared to the African region, where the green finance industry is more backward, the policies and standards related to green finance are not unified, and they tend to focus on the development of the traditional financial industry, which will impede the development of the local green finance industry, resulting in the development of green finance in the global context of the regional differences are getting bigger and bigger [18]. As the gap grows wider, the business of IFIs will also focus on regions with developed green finance industries, which will directly lead to a decrease in the market share of IFIs' investment, which is not conducive to the long-term development of IFIs.

Promote and Coordinate Green Finance Policies in Various Regions. IFIs occupy an important position in promoting regional coordination of green finance policies, taking on the role of capital providers, and green finance technical assistance, which can help developing countries improve their comprehensive capabilities in responding to climate change. In terms of green finance, IFIs have many opportunities for development. Because all countries in the world are now paying more attention to climate change, which creates a broader development space for IFIs. Moreover, many innovative mechanisms are emerging. For example, carbon pricing, climate insurance and green bonds. The emergence of these mechanisms provides more opportunities for IFIs to participate [19]. However, IFIs are still facing many challenges. Because developing countries in the implementation of green finance policy is not in place, which will bring some obstacles to the IFIs to promote the development of green finance, and developing countries have more complex financing mechanisms, which will make the IFIs to help developing countries in the financing of green projects will bring some difficulties [20].

4.3 Market Risks and Uncertainties

Green Bonds and the Risk of Price Volatility in Credit Markets. There are two main reasons for the volatility in green bond and credit markets around the world. First, in the field of green finance, different countries and regions face uneven distribution of funds. This difference will lead to an impact on supply and demand in the green bond and credit markets, resulting in large price fluctuations. For example, a large increase or decrease in green project financing in a certain region will directly lead to the disruption of the balance between supply and demand of funds for relevant green projects in the region, resulting in price fluctuations. Second, the flow of state funds in green projects is inaccurate. Most developing countries will give priority to donors, but donors will give priority to the current international situation, and because green bonds, credit markets and green project financing are closely linked, this can lead to unstable and volatile funding supply. However, with the help of IFIs, they will provide financial assistance and professional financial technical assistance to assist green finance practitioners in developing countries to jointly promoting the development of green finance. This can enhance the investment confidence of green project investors in the green bond and credit market, stabilize the market price to a certain extent, and prevent price fluctuations [21].

Uncertainty Caused by Technological Innovation and Change. Technological innovation promotes the development of green finance by diversifying and flexibilizing financing channels for green projects, enabling rational fund allocation and green industry upgrading. And the biggest advantage is that it can effectively reduce the financing constraints of enterprises through technology, guide more funds to technological innovation enterprises, and provide sufficient funds for the innovative research and development of enterprises. Digital technology can also be used to alleviate the long-standing problem of information asymmetry in the green market, help enterprises more easily access market information, and further improve the transparency of the green financial market. However, this could also create many uncertainties for the green finance industry on a global scale. To a certain extent, technological innovation will increase the risk of investment, which leads to IFIs will be more cautious in providing funds, which will directly lead to the green projects with greater potential finding it difficult to obtain financial assistance [22]. Therefore, IFIs should strengthen their own assessment capabilities, strengthen the comprehensive evaluation of enterprises, accurately identify reasonable and potential green projects, and promote the healthy development of the green financial market [23].

5 Conclusion

IFIs have played a key role in promoting the development of global green finance. With their broad service scope and strong capital transfer ability, they provide funds to potential green projects to continuously increase the vitality of green finance and green projects. In addition, IFIs continue to standardize the development of green finance and promote the healthy development of green finance in the world by assisting the unification of green finance standards among countries. IFIs also provide some financial technical assistance to developing countries and help train financial practitioners in countries with low financial capacity. However, the development of green finance will face many risks and challenges. Although the IFIs are promoting the harmonization of policies among regions and countries, it is difficult to reach a broad and in-depth consensus due to the different policies and cultures among countries and regions, which will bring many obstacles to the progress of the work. At the same time, the imperfect green finance database makes it difficult to fully and accurately reflect the actual situation of green projects, which will also affect the accurate evaluation and management of green projects by IFIs. Therefore, in the future, IFIs need to continuously deepen cooperation with national governments, strengthen the capacity to build global green finance, contribute to the realization of global sustainable development goals, and truly become the core force to promote the harmonious coexistence of economy and environment.

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